

MICHIGAN EDUCATION TRUST - PLANS B AND C ACTUARIAL SOUNDNESS VALUATION REPORT AS OF SEPTEMBER 30, 2015



December 2, 2015

Ms. Robin Lott Executive Director Michigan Education Trust P.O. Box 30198 Lansing, MI 48909

Re: Michigan Education Trust - Plans B and C Actuarial Valuation as of September 30, 2015

Dear Ms. Lott:

Gabriel, Roeder, Smith & Company ("GRS") has performed an actuarial soundness valuation of the Michigan Education Trust - Plans B and C ("MET") as of September 30, 2015. Although the term "actuarial soundness" is not specifically defined, the purpose of this actuarial valuation is to evaluate the financial status of the program as of September 30, 2015.

This report presents the principal results of the actuarial valuation of MET including the following:

- A comparison of the actuarial present value of the obligations for prepaid tuition contracts purchased through September 30, 2015, with the value of the assets associated with the program as of that same date;
- An analysis of the factors which caused the deficit/surplus to change since the prior actuarial valuation; and
- A summary of the actuarial assumptions and methods utilized in the actuarial calculations.

This report was prepared at the request of the MET Board and is intended for use by the MET Board and those designated or approved by the MET Board. This report may be provided to parties other than the MET Board only in its entirety and only with the permission of the MET Board. This report should not be relied on for any purpose other than the purpose described above.

The valuation results set forth in this report are based upon data and information, furnished by MET, concerning program benefits, financial transactions and beneficiaries of MET. We reviewed this information for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by MET. Further, the data and information provided is through September 30, 2015, and does not reflect subsequent market changes.

The valuation results summarized in this report involve actuarial calculations that require assumptions about future events. The actuarial assumptions used in this analysis were based on an experience review for the period from October 1, 2010, to September 30, 2013, and were adopted for use commencing with the September 30, 2014, valuation.

Ms. Robin Lott Michigan Education Trust - Plans B and C December 2, 2015 Page 2

Given the current asset allocation and liquidity requirements, the net investment rate of return assumption of 1.49 percent, appears to be consistent with applicable Actuarial Standards of Practice. However, other assumptions could also be reasonable, and could result in materially different results. This assumption was changed from the last valuation.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law. We have performed an analysis of the sensitivity of certain changes in future assumptions.

We believe that the actuarial methods used in this report are reasonable and appropriate for the purpose for which they have been used. In addition, because it is not possible or practical to consider every possible contingency, we may use summary information, estimates or simplifications of calculations to facilitate the modeling of future events. We may also exclude factors or data that are deemed to be immaterial.

This report is not a recommendation to anyone to participate in MET. GRS makes no representations or warranties to any person participating in or considering participation in MET. Current and future participants should be aware that the promises of MET will only be met if the assets of MET are sufficient to pay its obligations.

To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of the Michigan Education Trust - Plans B and C as of September 30, 2015. All calculations have been made in conformity with generally accepted actuarial principles and practices commonly applicable to similar types of arrangements.

Paul T. Wood and Lance Weiss are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

The signing actuaries are independent of MET.

Respectfully submitted,

Gabriel, Roeder, Smith & Company

Sincerely,

Paul T. Wood, A.S.A., M.A.A.A., F.C.A.

Consultant

Lance Weiss, E.A., M.A.A.A., F.C.A.

Senior Consultant

## **Table of Contents**

		Page
Section A	Executive Summary	<del></del>
	Summary of Results	1
	Discussion	4
Section B	Valuation Results	
	Exhibit I – Principal Valuation Results	8
	Exhibit II– Gain/Loss Summary	10
	Exhibit III – Sensitivity Testing Results	10
Section C	Fund Assets	
	Statement of Plan Assets	
	Reconciliation of Plan Assets	13
Section D	Participant Data	14
Section E	Methods & Assumptions	23
Section F	Plan Provisions	27

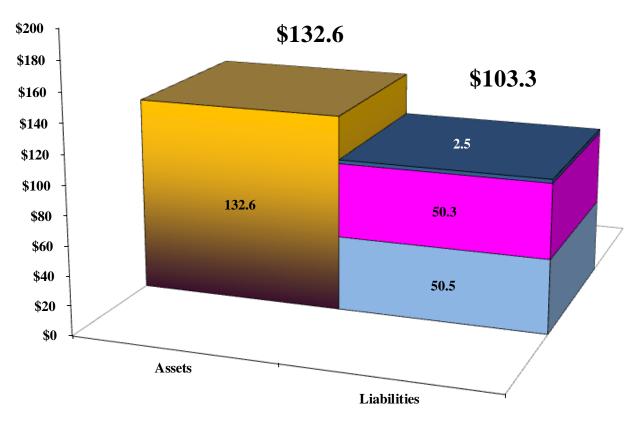


## SUMMARY OF RESULTS

## **Principal Valuation Results**

	Plan B Plan C		Plans B and C Combined	
Valuation Date:	September 30, 2015	September 30, 2015	September 30, 2015	
Contract Summary: Counts				
Not yet in Payment Status	1,441	73	1,514	
In Payment Status or Termination in Progress	4,496	<u>103</u>	4,599	
Total	5,937	176	6,113	
Average Years until Enrollment if not yet in Payment Status	5.6	4.5	5.6	
Assets  Valuation Assets (Market Value)  Approximate Return on MVA for Year Ended September 30, 2015	\$ 131,415,214	\$ 1,193,478	\$ 132,608,692 1.53%	
Actuarial Liabilities (Present Value of Future Tuition Payments, Fees, and Administrative Expenses)	\$ 102,608,180	\$ 691,335	\$ 103,299,515	
Surplus/(Deficit)	\$ 28,807,034	\$ 502,143	\$ 29,309,177	
Funded Ratio	128.1%	172.6%	128.4%	

# SUMMARY OF ASSETS AND LIABILITIES AS OF SEPTEMBER 30, 2015 Michigan Education Trust - Plans B and C (\$ in Millions)



ASSETS	LIABILTIES
Net Market Value of Assets	PV Administrative Fees
	PV Benefits (In Payment Status or Termination in Progress)
	PV Benefits (Not in Payment Status)

## Funded Status as of September 30, 2015

	September 30, 2015
Actuarial Present Value of Future Tuition Payments, Fees and Expenses	\$103,299,515
Market Value of Assets	\$132,608,692
Surplus/(Deficit) as of September 30, 2015	\$29,309,177

## **Gain/Loss Summary**

	Su	rplus/(Deficit)
(1.) Value at September 30, 2014	\$	25,537,144
(2.) Interest on (1.) at Assumed Rate from Previous Valuation	\$	293,677
(3.) Projected Value at September 30, 2015 [(1.) + (2.)]		25,830,821
(4.) Change Due to:		
a. Asset Experience	\$	274,187
b. Tuition/Fee Inflation		3,337,796
c. Assumption Changes		220,910
d. Other Experience		(354,537)
(5.) Total [ $(4.)a. + (4.)b. + (4.)c. + (4.)d.$ ]	\$	3,478,356
(6.) Actual Value at September 30, 2015 [(3.) + (5.)]	\$	29,309,177

## **DISCUSSION**

#### **Actuarial Valuation**

Gabriel, Roeder, Smith & Company ("GRS") has performed an actuarial soundness valuation of the Michigan Education Trust - Plans B and C ("MET") as of September 30, 2015.

The primary purposes of the actuarial soundness valuation are to:

- Determine the actuarial present value of the obligations for prepaid tuition contracts purchased through September 30, 2015, and compare such liabilities with the value of the assets associated with the program as of that same date; and
- Analyze the factors which caused the deficit/surplus to change since the prior actuarial valuation.

This report summarizes the results under the current assumptions and also presents the impact of variances in the rate of tuition and fee increases as well as the rate of investment return on assets.

In addition, the report provides summaries of the member data, financial data, plan provisions and actuarial assumptions and methods.

## **Background**

MET is a public body created by Michigan's Legislature (Public Act 316 of 1986) and housed within the Michigan Department of Treasury. MET must operate and finance its activities only through its assets. To protect those assets from other uses by the State, only MET, and not the State, controls its assets.

MET allows beneficiaries to lock in future college tuition costs at current prices. The beneficiaries are also eligible for certain federal and state tax advantages.

Three different plan options are available. The **Full Benefits Plan** provides full in-state tuition and mandatory fees at any Michigan public university, or tuition and mandatory fees at Michigan public community colleges (in-district or out-of-district) up to the number of credit hours required for a standard four-year baccalaureate degree (usually 120 semester credit hours). Individuals may purchase the Full Benefits Plan in semester increments up to 10 semesters (five years) of tuition.

The **Limited Benefits Plan** provides in-state tuition and mandatory fees at Michigan public universities, or tuition and mandatory fees at Michigan public community colleges (in-district or out-of-district) up to 105 percent of the weighted average tuition of all Michigan public four-year universities. If a student decides to attend a Michigan public college where tuition costs are higher than average, the number of credits allowed will be prorated based on the number of credit hours MET can purchase with 105 percent of the weighted average cost of Michigan public four-year universities. This plan might not cover the full cost of Michigan's most expensive institutions.

Students who attend a school where tuition is not fully covered under the Limited Benefits Plan will receive the number of credit hours MET can purchase at the time of college enrollment.

For example, in the 2015/2016 school year:

- If a student with a four-year Limited Benefits Plan contract attends the University of Michigan-Ann Arbor, MET will pay for 104 credit hours.
- If a student attends Michigan Technological University, MET will pay for 100 credit hours.
- If a student attends Michigan State University, MET will pay for 108 credit hours.

Individuals may purchase the Limited Benefits Plan in semester increments up to 10 semesters (five years).

The **Community College Plan** provides in-district tuition and mandatory fees at Michigan public community colleges. Some areas of the State are not within a community college district. Students who attend a community college out of their district will be responsible for paying the difference between the out-of-district and in-district tuition cost. Individuals may purchase the Community College Plan in semester increments up to four semesters (two years) under this contract.

MET Plans B and C are closed to new entrants.

## **Actuarial Assumptions**

The valuation results summarized in this report involve actuarial calculations that require assumptions about future events. The actuarial assumptions used in this analysis were based on an experience review for the period from October 1, 2010, to September 30, 2013, and were adopted for use commencing with the September 30, 2014, valuation. The major actuarial assumptions used in this analysis were provided by and are the responsibility of MET.

In the previous actuarial soundness valuation as of September 30, 2014, a discount rate assumption of 1.15 percent and a tuition increase assumption of 7.1 percent for the first three years and 4.5 percent, thereafter were used. Each year, the discount rate and tuition increase assumption are reviewed for reasonableness. Staff at the Department of Treasury then recommends updated assumptions to the MET Board. The recommended assumptions for the actuarial soundness valuation as of September 30, 2015, are as follows:

- Discount Rate: 1.49 percent.
- Tuition Increase Assumption: 7.1 percent for the first three years and 4.5 percent, thereafter.

In summary, the discount rate was increased from 1.15 percent to 1.49 percent and the tuition increase assumption for the assumption for the initial select period was reset to three years.

The MET Board approved these assumptions for use in the September 30, 2015, actuarial soundness valuation at its October 9, 2015, meeting. The impact of the change in assumptions is shown in Exhibit II on page 10.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law. We have performed an analysis of the sensitivity of certain changes in future assumptions.

## **Financial Status of Program**

As of September 30, 2015, the present value of all future tuition obligations under contracts outstanding (and including estimated future administrative expenses) at that date is \$103.3 million. Fund assets as of September 30, 2015, including only the market value of program assets, are \$132.6 million.

The difference between the market value of assets of \$132.6 million and program obligations of \$103.3 million represents a program surplus of \$29.3 million. The comparable program surplus as of the last actuarial valuation as of September 30, 2014, was \$25.6 million.

Under the approved assumptions, the program is 128.4 percent funded and is expected to pay all contracted benefits.

## Gain/Loss Analysis

As described above, the program surplus increased from \$25.6 million as of September 30, 2014, to \$29.3 million as of September 30, 2015. The change in discount rate and lower than expected tuition increases contributed to an increase in the surplus. This increase was partially offset by the change in tuition and fee inflation assumption.

#### **Benefit Provisions**

We understand there were no changes in the program provisions since the last actuarial valuation as of September 30, 2014.

#### **Assets**

MET assets are held in trust. MET provided the asset information used in the September 30, 2015, actuarial valuation.

This report contains several exhibits summarizing the plan's assets, including a summary of the market value of assets broken down by asset category and a reconciliation of the assets from the last valuation date to the current valuation date.



Exhibit I Principal Valuation Results as of September 30,

	2015	2014
1 Number of Contracts		_
a. Not yet in Payment Status:	1,514	1,623
b. In Payment Status or Termination in Progress:	4,599	5,386
c. Total	6,113	7,009
Average Years until Enrollment if Not Yet In Payment Status	5.6	5.1
2 Assets		
a. Market Value of Assets (in Trust)	\$ 132,608,692	\$ 141,977,693
b. PV Future Contract Contributions	<u>-</u>	
c. Total Market Value of Assets (MVA)	\$ 132,608,692	\$ 141,977,693
3 Actuarial Results		
Liabilities - Tuition and Fees		
a. Not yet in Payment Status:	\$ 50,502,724	\$ 55,293,807
b. In Payment Status or Termination in Progress:	50,268,602	58,518,515
c. Total	\$ 100,771,326	\$ 113,812,322
Liabilities - Present Value of Future Administrative Expenses	\$ 2,528,189	\$ 2,628,227
Liabilities Total	\$ 103,299,515	\$ 116,440,549
Surplus/(Deficit)	\$ 29,309,177	\$ 25,537,144
Funded Ratio	128.4%	121.9%

Exhibit I Principal Valuation Results as of September 30, (Continued)

	2015	2014
1 Market Value of Assets (in Trust)	\$ 132,608,692	\$ 141,977,693
2 Actuarial Present Value of Tuition, Fees and Admin		
Expenses  a. Short Term <sup>a</sup>	\$ 24,471,966	\$ 27,469,263
b. Long Term <sup>b</sup>	78,827,549	88,971,286
c. Total	\$ 103,299,515	\$ 116,440,549
Surplus/(Deficit)	\$ 29,309,177	\$ 25,537,144
Funded Ratio	128.4%	121.9%

<sup>&</sup>lt;sup>a</sup> Present value of amounts in following year.

<sup>&</sup>lt;sup>b</sup> Present value of amounts after first year.

Exhibit II Gain/Loss Summary

	Present Value of Benefits	Valuation Assets	Surplus/(Deficit)
(1.) Values at September 30, 2014	\$ 116,440,549	\$ 141,977,693	\$ 25,537,144
(2.) Contributions/Miscellaneous Income	\$ -	\$ -	\$ -
(3.) Benefit Payments	\$ (11,211,648)	\$ (11,211,648)	\$ -
(4.) Interest on (1.), (2.), and (3.) at Assumed Rate from Previous Valuation	\$ 1,274,784	\$ 1,568,461	\$ 293,677
(5.) Projected Values at September 30, 2015 [(1.) + (2.) + (3.) + (4.)]	\$ 106,503,684	\$ 132,334,505	\$ 25,830,821
(6.) Change Due to:			
a. Asset Experience	\$ -	\$ 274,187	\$ 274,187
b. Tuition/Fee Inflation	(3,337,796)	-	3,337,796
c. Assumption Changes	(220,910)	-	220,910
d. Other Experience	354,537	-	(354,537)
(7.) Total [(6.)a. + (6.)b. + (6.)c. + (6.)d.]	\$ (3,204,169)	\$ 274,187	\$ 3,478,356
(8.) Actual Values at September 30, 2015 [(5.) + (7.)]	\$ 103,299,515	\$ 132,608,692	\$ 29,309,177

## **Exhibit III Sensitivity Testing Results**

The actuarial assumptions regarding future increases in tuition costs and fees and the future rate of investment return were prescribed to us by MET. In our opinion, the assumptions prescribed to us are reasonable for the purpose of the measurement. However, no one knows with certainty what the future holds with respect to economic and other contingencies. For example, while it is assumed that the assets of the fund will earn 1.49 percent each year throughout the life of the contracts, actual returns are expected to vary from year to year. Therefore, we have projected MET results under alternative assumptions for future investment income and tuition increases, as follows:

- 1. Current valuation assumptions approved by the MET Board (1.49 percent investment return, 7.1/4.5 percent tuition increases).
- 2. Tuition increases are 100 basis points higher/lower in each future year than assumed in this year's actuarial soundness valuation.
- 3. The investment return is 100 basis points higher/lower in each future year than assumed in this year's actuarial soundness valuation.
- 4. Tuition increases are 100 basis points higher and the investment return is 100 basis points lower in each future year than assumed in this year's actuarial soundness valuation.
- 5. Tuition increases are 100 basis points lower and the investment return is 100 basis points higher in each future year than assumed in this year's actuarial soundness valuation.

The impact of each of these scenarios on the principal valuation results is presented on the following page.

**Exhibit III Sensitivity Testing Results (Continued)** 

\$ in Millions

	Current Valuation Assumptions	Assumed Tuition Increases +100 Basis Points	Assumed Tuition Increases -100 Basis Points	Assumed Investment Return +100 Basis Points	Assumed Investment Return -100 Basis Points	Assumed Tuition Increases +100 Basis Points and Investment Return -100 Basis Points	Assumed Tuition Increases -100 Basis Points and Investment Return +100 Basis Points
Assumed Investment Return	1.49%	1.49%	1.49%	2.49%	0.49%	0.49%	2.49%
Assumed Tuition Increases	7.1%/4.5%	8.1%/5.5%	6.1%/3.5%	7.1%/4.5%	7.1%/4.5%	8.1%/5.5%	6.1%/3.5%
1 Assets							
a. Market Value of Assets (in Trust)	\$132.6	\$132.6	\$132.6	\$132.6	\$132.6	\$132.6	\$132.6
b. PV Future Contract Contributions	0.0	0.0	0.0	0.0	0.0	0.0	0.0
c. Total Market Value of Assets (MVA)	\$132.6	\$132.6	\$132.6	\$132.6	\$132.6	\$132.6	\$132.6
2 Actuarial Results Liabilities - Tuition and Fees							
a. Not yet in Payment Status:	\$50.5	\$53.8	\$47.5	\$46.8	\$54.7	\$58.5	\$44.1
b. In Payment Status or Termination in Progress:	50.3	50.8	49.8	49.4	51.1	51.7	48.9
c. Total	\$100.8	\$104.6	\$97.3	\$96.2	\$105.8	\$110.2	\$93.0
Liabilities - PV of Future Admin. Expenses	\$2.5	\$2.5	\$2.5	\$2.4	\$2.7	\$2.7	\$2.4
Liabilities Total	\$103.3	\$107.2	\$99.7	\$98.6	\$108.5	\$112.8	\$95.4
Surplus/(Deficit)	\$29.3	\$25.4	\$32.9	\$34.0	\$24.1	\$19.8	\$37.2
Funded Ratio	128.4%	123.7%	132.9%	134.4%	122.2%	117.6%	139.0%
Difference From Results Based on Current Assump Surplus Funded Ratio	\$0.0 0.0%	(\$3.9) (4.7%)	\$3.6 4.5%	\$4.7 6.0%	(\$5.2) (6.2%)	(\$9.5) (10.8%)	\$7.9 10.6%



## **SECTION C**FUND ASSETS

## STATEMENT OF PLAN ASSETS (ASSETS AT MARKET VALUE)

## Michigan Education Trust - Plans B and C Statement of Plan Net Assets Year ended September 30, 2015

1. Cash and cash equivalents	\$ 8,553,837
2. Investments	
a. Short-term Investments	\$ 29,992,542
b. Unamortized discount on short-term investments	5,942
c. Bonds	89,080,926
Total investments	\$ 119,079,410
3. Deferred Outflows of Resources	\$ 77,177
4. Receivables	
a. Advances to state general fund	\$ 1,690,276
b. Interest and dividends receivable	552,366
c. Due from others	 3,177,712
Total receivables	\$ 5,420,354
5. Liabilities	
a. Due to Plan D	\$ -
b. Compensated absences	238,362
c. Pension Liability	 254,013
Total liabilities	\$ 492,375
6. Deferred Inflows of Resources	\$ 29,711
5. Net assets = $(1) + (2) + (3) + (4) - (5) - (6)$	\$ 132,608,692

## RECONCILIATION OF PLAN ASSETS

## Michigan Education Trust - Plans B and C Statement of Changes in Plan Net Assets Twelve Month Period ended September 30, 2015

1. Value of assets at beginning of year*	\$ 141,730,195
2. Changes during year	
a. Additions	
(1) Investment income	\$ 2,476,854
(2) Miscellaneous income	28,731
(3) Net gain on sale of security	60,503
Total Additions = $(1) + (2) + (3)$	\$ 2,566,088
b. Deductions	
(1) Administrative and other expenses	\$ 484,705
(2) Amounts paid under contracts	
(a) Tuition benefits	4,573,428
(b) Termination benefits	
[1] Paid to colleges	\$ 1,128,106
[2] Loan defaults/Death refunds	36,507
[3] Paid to refund designee	4,988,902
Total termination benefits	\$ 6,153,515
Total paid under contracts = $(a) + (b)$	\$ 10,726,943
Total Deductions = $(1) + (2)$	\$ 11,211,648
c. Unrealized appreciation (depreciation)	\$ (475,942)
Net increases (decreases) during year = $a - b + c$	\$ (9,121,502)
Net value of assets at end of year = $1 + 2$	\$ 132,608,692

<sup>\*</sup>Asset value at beginning of year was restated to \$141,730,195 from \$141,977,693.



## HISTORICAL SUMMARY AS OF SEPTEMBER 30, 2015

	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>
Number of Contracts					
Full benefits	5,907	6,771	7,816	9,168	10,769
Limited benefits	30	36	43	52	71
Community college	<u>176</u>	<u>202</u>	<u>230</u>	<u>252</u>	<u>288</u>
Total	<u>6,113</u>	<u>7,009</u>	<u>8,089</u>	<u>9,472</u>	<u>11,128</u>
Assets Market value	<u>\$132,608,692</u>	<u>\$141,977,693</u>	<u>\$155,411,599</u>	<u>\$174,361,361</u>	<u>\$200,210,892</u>

## **CONTRACT DATA SUMMARY**

	Lump Sum			M			
	Full Benefits	Limited Benefits	Community <u>College</u>	Full <u>Benefits</u>	Limited Benefits	Community <u>College</u>	<u>Total</u>
Total as of 9/30/2014	6,443	36	191	328	0	11	7,009
Adjustment for prior years	(169)	3	(11)	(13)	0	(1)	(191)
New contracts issued	0	0	0	0	0	0	0
Contracts paid in full	(656)	<u>(9)</u>	(12)	<u>(26)</u>	<u>0</u>	<u>(2)</u>	<u>(705)</u>
Total as of 9/30/2015	<u>5,618</u>	<u>30</u>	<u>168</u>	<u>289</u>	<u>o</u>	<u>8</u>	<u>6,113</u>

## CONTRACTS IN PAYMENT STATUS AS OF SEPTEMBER 30, 2015

	Full	Limited	Community	
	Benefits	<b>Benefits</b>	College	
	Contracts	Contracts	Contracts	Total
. Michigan Public 4-Year College				
Central Michigan University	218	0	0	218
Eastern Michigan University	139	0	0	139
Ferris State University	104	0	0	104
Grand Valley State University	153	2	0	155
Lake Superior State University	13	1	0	14
Michigan State University	640	1	0	641
Michigan Technological University	57	1	0	58
Northern Michigan University	49	0	0	49
Oakland University	135	0	0	135
Saginaw Valley State University	34	0	0	34
University of Michigan-Dearborn	59	0	0	59
University of Michigan-Flint	36	0	0	36
University of Michigan-Ann Arbor	315	0	0	315
Wayne State University	156	0	0	156
Western Michigan University	<u>215</u>	<u>1</u>	<u>0</u>	<u>216</u>
Total Michigan Public 4-Year College	<u>2,323</u>	6	0	2,329

## CONTRACTS IN PAYMENT STATUS AS OF SEPTEMBER 30, 2015 (CONT'D)

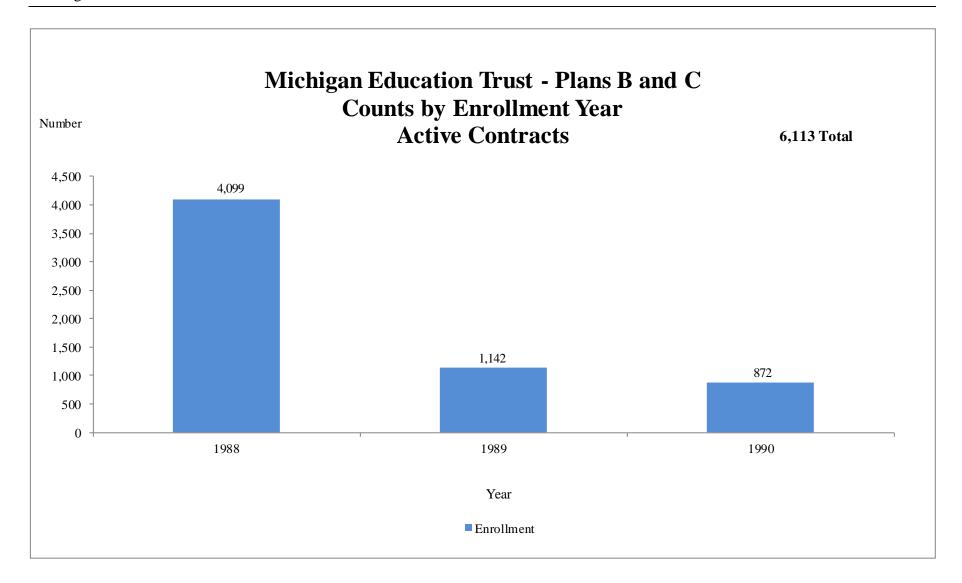
	Full Benefits Contracts	Limited Benefits Contracts	Community College Contracts	Total
. Michigan Community College				
Alpena Community College	1	0	0	1
Bay De Noc Community College	3	0	0	3
Delta College	20	0	3	23
Glen Oaks Community College	1	0	0	1
Gogebic Community College	0	0	0	0
Grand Rapids Community College	42	1	9	52
Henry Ford Community College	36	0	3	39
Jackson Community College	14	0	9	23
Kalamazoo Valley Community College	18	0	3	21
Kellogg Community College	5	0	1	6
Kirtland Community College	4	0	1	5
Lake Michigan Community College	9	0	1	10
Lansing Community College	81	1	10	92
Macomb County Community College	85	1	12	98
Mid-Michigan Community College	11	0	4	15
Monroe Community College	8	0	0	8
Montcalm Community College	1	0	0	1
Mott Community College	29	1	5	35
Muskegon Community College	7	0	1	8
North Central Michigan College	6	0	0	6
Northwestern Michigan College	24	1	4	29
Oakland Community College	140	1	12	153
Schoolcraft College	90	0	7	97
Southwestern Michigan College	3	0	0	3
St. Clair County Community College	10	0	2	12
Washtenaw Community College	74	0	3	77
Wayne County Community College	24	0	2	26
West Shore Community College	<u>2</u>	<u>0</u>	<u>0</u>	<u>2</u>
Total Michigan Community College	<u>748</u>	<u>6</u>	<u>92</u>	<u>846</u>
<b>Total Active Contracts (1.)</b> + <b>(2.)</b>	<u>3,071</u>	<u>12</u>	<u>92</u>	<u>3,175</u>

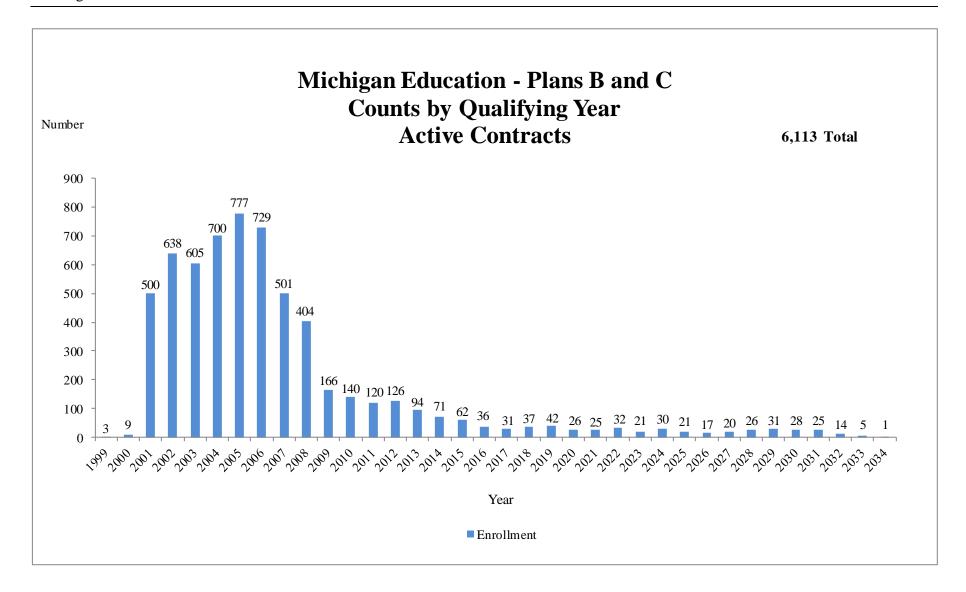
## CONTRACTS IN PAYMENT STATUS AS OF SEPTEMBER 30, 2015 (CONT'D)

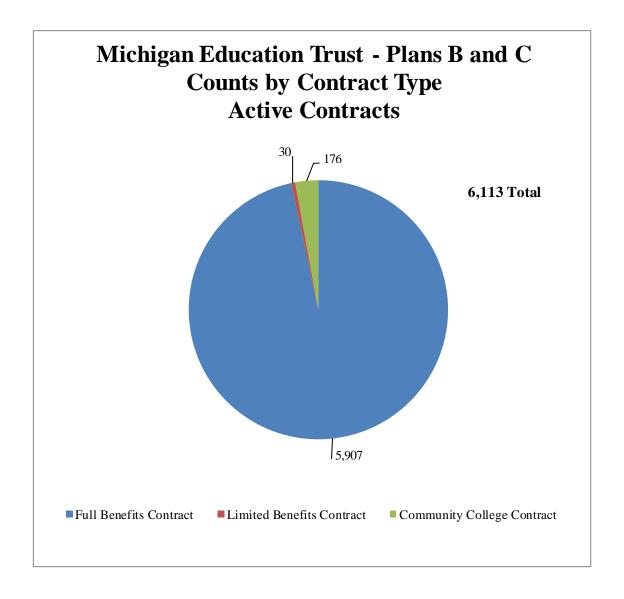
	Full	Limited	Community	
	Benefits	Benefits	College	
	Contracts	Contracts	Contracts	Total
3. Terminations in Progress				
Reason:				
Michigan Independent College	125	0	3	128
Out-of-State/Pay College	285	1	1	287
Out-of-State/Pay Refund Designee	13	1	0	14
Full Scholarship	13	0	1	14
Not Attending College	191	1	1	193
Attending Community College with				
Full/Limited Benefits Contract	94	1	0	95
Attending 4 - year College with				
Community College Contract	0	0	3	3
Other (Military)	<u>2</u>	<u>0</u>	<u>0</u>	<u>2</u>
<b>Total Terminations in Progress</b>	<u>723</u>	<u>4</u>	<u>9</u>	<u>736</u>
4. Inactive Students	<u>682</u>	<u>4</u>	<u>2</u>	<u>688</u>
Grand Total, Contracts in Payment				
Status $(1.) + (2.) + (3.) + (4.)$	<u>4,476</u>	<u>20</u>	<u>103</u>	<u>4,599</u>
5. Not Yet in Payment Status	<u>1,431</u>	<u>10</u>	<u>73</u>	<u>1,514</u>
Grand Total, Active Contracts (1.) + (2.)				
+ (3.) + (4.) + (5.)	<u>5,907</u>	<u>30</u>	<u>176</u>	<u>6,113</u>

## CONTRACTS PAID IN FULL IN THE YEAR ENDING SEPTEMBER 30, 2015

	Lump Sum			Monthly Purchase			
	Full Benefits	Limited Benefits	Community College	Full Benefits	Limited Benefits	Community College	<u>Total</u>
1. Attended Public Colleges	306	4	5	10	0	1	326
2. Terminations							
Michigan Independent College	50	0	1	2	0	1	54
Out-of-State/Pay College	60	1	0	4	0	0	65
Out-of-State/Pay Refund Designee	8	0	1	0	0	0	9
Full Scholarship	5	0	0	0	0	0	5
Not Attending College	176	4	4	9	0	0	193
Disability/Death	2	0	0	0	0	0	2
Attending Community College with							
Full/Limited Benefits Contract	48	0	0	1	0	0	49
Attending 4 - year College with							
Community College Contract	0	0	1	0	0	0	1
Other (Military)	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>
Total Terminations	<u>350</u>	<u>5</u>	<u>7</u>	<u>16</u>	<u>0</u>	<u>1</u>	<u>379</u>
Total Contracts Paid in Full	<u>656</u>	<u>9</u>	<u>12</u>	<u>26</u>	<u>0</u>	<u>2</u>	<u>705</u>









## VALUATION METHODS AND ASSUMPTIONS

*The actuarial assumptions* used in the valuation are shown in this Section.

Measurement Date September 30, 2015

The net investment return rate 1.49 percent per annum, compounded annually

## Weighted Average Tuition and Increases by Contract Type

	Four Year Public College	Community College
Weighted Average Tuition and Fees	\$12,880	\$3,539
Average Tuition and Fees	\$12,320	\$3,798
Lowest Tuition and Fees	\$9,639	\$2,798
Tuition and Fees Increase Assumption - Years One through Three	7.10%	7.10%
Tuition and Fees Increase Assumption - After Year Three	4.50%	4.50%

The Weighted Average Tuition and Fees used in the actuarial soundness valuation are based on preliminary tuition and fees for 2015/2016.

The Tuition and Fee increase assumptions were chosen by the Board and consider historical public tuition and fee inflation over a 5 to 10-year horizon, as well as current economic and political conditions.

#### Administrative Expenses

Administrative expenses of the Program are assumed to be paid through a combination of investment earnings and fees assessed on purchasers. Total administrative expenses budgeted for MET Plans B and C and MET Plan D net of advertising and public relations expenses is equal to \$3,400,902. This amount was prorated by the number of active contracts in MET Plans B and C vs. MET Plan D. Therefore, the amount budgeted for MET Plans B and C in 2015-2016 is \$477,617.

#### Bias Load

A load of 5.0 percent for four-year public universities and zero percent for two-year community colleges is added to the WAT for all contract types to recognize the bias toward enrollment at more expensive schools.

#### Experience Load

Two features of the program may cause greater payments than expected. These two features are a) the ability of a beneficiary to attend a college for which block pricing is in effect resulting in the possibility of having the program pay for more years than purchased and b) the ability of a beneficiary to have more than 120 hours covered (even though, for example, four years of coverage was

purchased) due to being in a specific program requiring more than 120 hours for an undergraduate degree (e.g. Engineering). A load of 2.0 percent was added to all liabilities to account for this.

## Future Contract Sales

MET Plans B and C are closed to new entrants.

## Rates of Matriculation and Refund At and Beyond Qualifying Year

Beneficiaries are assumed to either matriculate or receive a refund according to the following schedule:

Years After	Matriculation and
Qualifying Year	Refund Rate
0	40%
1	60%
2	40%
3	35%
4	25%
5	15%
6	15%
7	10%
8	10%
9	10%
10	10%
11	5%
12	5%
13	5%
14	5%
15	100%

Probability of Matriculation or Refund upon Transition to Payment Status

Years After Qualifying Year	Matriculation Rate	Refund Rate
0	70%	30%
1	95%	5%
2	90%	10%
3	90%	10%
4	75%	25%
5	70%	30%
6	65%	35%
7	60%	40%
8	55%	45%
9	55%	45%
10	45%	55%
11	60%	40%
12	60%	40%
13	60%	40%
14	35%	65%
15	0%	100%

## Utilization of Benefits (applies only to members that have not begun utilizing benefits)

Beneficiaries are assumed to use the benefits as defined in the contract beginning in their qualifying year and subsequently according to the following schedule:

Distribution of Benefit Utilization							
Number of Years Since Benefit	Number of Years Purchased						
Utilization Begins	0 - 1	1 - 2	2 - 3	More than 3			
1	67%	33%	22%	17%			
2	22%	33%	22%	17%			
3	11%	20%	22%	17%			
4		7%	17%	17%			
5		7%	10%	17%			
6			4%	7%			
7			3%	5%			
8				2%			
9				2%			

## Utilization of Benefits (applies only to members that have begun utilizing benefits)

Once a beneficiary has begun using benefits, it is assumed that beneficiaries will utilize 20 credits per year until benefits are fully depleted.

#### **Contract Terminations**

					Distribution	of Contract	Termination
Refund Type	Refund	Amount of Refund - Full or Limited Benefits	Amount of Refund - Community College Benefits	Termination Code and Code Description	Full Benefits	Limited Benefits	Community College Benefits
1	Weighted Average Tuition	\$ 12,880	\$ 3,539	1 - Attend Mich. Independent college direct refund to college	22.0%	12.0%	33.0%
2	Average Tuition*	\$ 12,320	\$ 3,798	Attend out of state college - direct refund to college     Full scholarship	39.0%	21.0%	22.0%
3	Lowest Tuition	\$ 9,639	\$ 2,798	3 - Attend Mich. Independent or out of state college - direct refund to refund designee 5 - Will not attend college 10 - Other (military)	26.0%	38.0%	9.0%
4	Lowest Tuition	\$ 9,639	N/A	7 - Purchase full or limited benefit, but attend community college	13.0%	29.0%	0.0%
5	Community College WAT	N/A	\$ 3,539	8 - Purchase community college, but attend 4-yr public college	0.0%	0.0%	36.0%
6	Lowest Tuition	\$ 9,639	\$ 2,798	6 - Death or disability	0.0%	0.0%	0.0%
				Average Refund	\$ 11,398	\$ 10,591	\$ 3,529

<sup>\*</sup>Not applicable to Limited Benefits Contracts

The Weighted Average Tuition and Fees used in the actuarial soundness valuation are based on preliminary tuition and fees for 2015/2016.

Refunds are paid out in accordance with the contract provisions over a period of 4 years for full and limited benefit contracts and 2 years for community college contracts.

#### **Inactive Contracts**

Assume that this group will take a refund 15 years after their qualifying year based on projected lowest tuition.

## Mortality and disability

No assumption is made for death or disability. Valuing the rate of incidence is expected to be immaterial.



## **PLAN PROVISIONS**

A. Issue Years: 1988, 1989 and 1990

B. Benefit Provisions

#### 1. Full Benefits Plan

a. Michigan Public 4-Year College

Full benefits plan provides for tuition and mandatory fees for the number of years specified in the contract, from one to five years.

b. Community College

If the beneficiary elects to attend a community college, MET will pay the community college tuition cost or the lowest university tuition cost, depending on the options selected by the beneficiary.

c. Michigan Independent College If the beneficiary elects to attend a Michigan independent college, the contract may be terminated and MET will pay tuition to the independent college based on the weighted average tuition cost. If the payment is not made to the college, the amount will be based on the lowest tuition.

d. Out-of-State College

If the beneficiary elects to attend an out-of-state college, the contract may be terminated and MET will pay to the college four annual installments based on the average tuition cost. If payment is not made to the college, the amount will be based on the lowest tuition.

e. Full Scholarship

If the beneficiary receives a full scholarship, the contract may be terminated and MET will pay four annual installments based on the average tuition cost.

f. Death or Disability

If the beneficiary dies or has a disability which renders the beneficiary incapable of attending college, the contract may be terminated and MET will pay one installment based on the lowest tuition cost.

g. No College

If the beneficiary does not attend college, the contract may be terminated and MET will pay four annual installments based on the lowest tuition cost.

#### 2. Limited Benefits Plan

a. Michigan Public 4-Year College

Limited benefits plan provides for tuition and mandatory fees for the number of years specified in the contract, from one to four years not to exceed 105% of the WAT. However, if tuition and mandatory fees exceed 105% of the WAT, the beneficiary is provided a reduced number of credit hours.

b. Community College

If the beneficiary elects to attend a community college, MET will pay the community college tuition cost or the lowest university tuition cost, depending on options selected by the beneficiary.

c. Michigan Independent College If the beneficiary elects to attend a Michigan independent college, the contract may be terminated and MET will provide funds to the independent college based on the weighted average tuition at the colleges with tuition less than 105% of the weighted average tuition. If payment is not made to the college, the amount will be based on the lowest tuition.

d. Out-of-State College

If the beneficiary elects to attend an out-of-state college, the contract may be terminated and MET will pay four annual installments based on the lowest tuition cost.

e. Full Scholarship

If the beneficiary receives a full scholarship, the contract may be terminated and MET will pay four annual installments based on the lowest tuition cost.

f. Death or Disability

If the beneficiary dies or has a disability which renders the beneficiary incapable of attending college, the contract may be terminated and MET will pay one installment based on the lowest tuition cost.

g. No College

If the beneficiary does not attend college, the contract may be terminated and MET will pay four annual installments based on the lowest tuition cost.

### 3. Community College Plan

a. Community College

Community college plan provides for tuition and mandatory fees for the number of years specified in the contract, from one to two years.

b. Other Michigan College

If the beneficiary elects to attend a Michigan four-year public college or a Michigan independent college, the contract may be terminated and MET will pay tuition to the college in two annual installments as needed based on the community college weighted average tuition cost in the year prior to the contract termination.

c. Out-of-State College

If the beneficiary elects to attend an out-of-state college, the contract may be terminated and MET will pay to the college two annual installments based on the community college average tuition cost. If payment is not made to the college, the amount will be based on the lowest tuition.

d. Full Scholarship

If the beneficiary receives a full scholarship, the contract may be terminated and MET will pay two annual installments based on the community college average tuition cost.

e. Death or Disability

If the beneficiary dies or has a disability which renders the beneficiary incapable of attending college, the contract may be terminated and MET will pay one installment based on the community college lowest tuition cost.

f. No College

If the beneficiary does not attend college, the contract may be terminated and MET will pay two annual installments based on the community college lowest tuition cost.

C. Transferability

If the contract is transferred to an older beneficiary, MET may charge additional costs, which include a transfer fee, the cost differential between beneficiary ages/grades and MET's loss of investment income. If the older beneficiary accepts the academic year of the original beneficiary, the additional cost can be waived.

D. Loans

If a purchaser defaults on a loan secured by the contract, MET will reimburse the savings institution for the default and will reduce the amount of benefits purchased in proportion to the amount remaining after the payment to the savings institution.

E. Monthly Purchase

The purchaser of a monthly purchase contract purchases a percent of educational benefits with every monthly purchase amount which is received by MET. A purchaser may choose to make monthly payments over 4, 7, 10 or 15 years.